

Art Unit 212

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ON BRIEF

Appeal No. 88-3439

PAT & TM OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte Ole K. Nilssen

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Application for Patent filed October 15, 1985,  
Serial No. 787,692; which is a continuation of application  
Serial No. 644,155, filed August 27, 1984, now abandoned;  
which is a continuation of application Serial No. 555,426,  
filed November 23, 1983, now abandoned; which is a continuation  
of application Serial No. 178,107, filed August 14, 1980, now  
abandoned. Inverter With Resonant D-C Circuits.

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Ole K. Nilssen, pro se.

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Senior Examiner - William H. Beha, Jr.

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Before Urynowicz, Krass and Cardillo, Examiners-in-Chief.

Cardillo, Examiner-in-Chief.

This is a decision on the appeal under 35 U.S.C. 134  
from the examiner's rejection of claims 143 and 144. Claims 139  
to 142, the only other claims remaining in this application, have  
been allowed by the examiner.

We reproduce representative claim 143 as follows:

143. The combination of:

rectifier means connected with an ordinary electric utility power line and operative to provide a DC voltage across a set of DC terminals;

inverter means having control input means, the inverter means being connected with the DC terminals and operative to provide a substantially squarewave voltage across a pair of squarewave output terminals in response to a drive signal being provided to the control input means;

an L-C series-circuit having a tank-capacitor and a tank-inductor, and being effectively connected across the squarewave output terminals;

load means effectively connected in parallel with the tank-capacitor; and

feedback means connected in circuit between the squarewave output terminals and the control input means, the feedback means: i) comprising saturable inductor means effectively connected with the control input means, and ii) being operative to provide the drive signal; thereby to cause the inverter to self-oscillate at a frequency equal to or higher than the natural resonance frequency of the L-C series-circuit;

whereby: i) most of the real power provided from the squarewave output terminals flows into the load means, and ii) the saturable inductor means and the L-C series-circuit are co-determinative of the frequency of self-oscillation.

The references of record relied on by the examiner are:

Pintell	3,026,486	Mar. 20, 1962
Walker	4,071,812	Jan. 31, 1978

References relied on by the board:

Franke et al. (Franke) <sup>1</sup>	4,266,134	May 5, 1981 (filed Dec. 13, 1978)
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Bedford et al. (Bedford)<sup>2</sup>, Principles of Inverter Circuits, John Wiley and Sons, Inc., 1964, pages 287 to 300.

Claims 143 and 144 stand rejected under 35 U.S.C. 103. As evidence of obviousness, the examiner cites Walker and Pintell considered together.

Instead of repeating the positions of the examiner and appellant, we make reference to the answer and the revised appeal

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<sup>1</sup>Of record in the application.

<sup>2</sup>Cited by the board and attached to this decision

brief<sup>3</sup> for the respective details thereof.

OPINION

At the outset, we note that appellant has argued patentability in general without regard to the specific limitations set forth in any particular claim. Accordingly, all of the appealed claims will stand or fall together. In re Wood, 582 F.2d 638, 199 USPQ 137 (CCPA 1978) and In re Hellsund, 474 F.2d 1307, 177 USPQ 170, 172 (CCPA 1973). Also note 37 CFR 1.192 which provides (in its pertinent portion) that the brief "...must set forth the ...arguments on which the appellant will rely to maintain the appeal" (emphasis added).

We have carefully reviewed the evidence before us in light of the arguments presented. We will sustain the rejection of claims 143 and 144 as we find the evidence of record to be sufficient to establish that the subject matter of these claims would have been obvious to the artisan in the manner dictated by 35 U.S.C. 103.

Appellant suggests that the qualifications of the examiner (revised appeal brief, page 1) are at issue with regard to the rejection before us. Moreover, appellant apparently suggests that the use by the patent community of the objective concept of a hypothetical person of ordinary skill in the art is not directly sanctioned by 35 U.S.C. 103. Neither line of reasoning can be given any weight in our considerations due to the recent repudiation of such arguments by our reviewing court in a decision involving appellant. See In re Nilssen, 851 F.2d 1401, 7 USPQ2d 1500, 1501 to 1502 (Fed. Cir. 1988).

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<sup>3</sup>Appellant's first appeal brief was not entered since it was returned to appellant. This return was upheld on petition (Paper No. 64). This first brief is, accordingly, not considered by us. The reply brief filed June 24, 1988 (Paper No. 65) was refused entry (Paper No. 66) and, likewise, can play no part in our decision.

Turning next to appellant's main argument, we find an assertion that the examiner is in error in that he has equated that which is within the capabilities of the skilled designer with obviousness. In this regard, appellant argues that the examiner has provided no evidence that there is any expected obvious advantage in the proposed modification of Walker by the teachings of Pintell (or vice versa). Accordingly, it is appellant's position that the examiner's proposed combination of reference teachings is "arbitrary, concocted for the purpose of attaining the claimed invention, not because it leads to an advantage plainly and clearly suggested by the applied references". (revised appeal brief, page 3). At the heart of appellant's argument we find a rationale which is an indirect attack on the concept that the artisan (hypothetical person of ordinary skill in the art) could, in reality, be aware of all relevant prior art and select these particular references from the thousands available to arrive at appellant's claimed invention (revised appeal brief, page 4).

Taking appellant's last contention first, we note that any decision as to § 103 obviousness must be a reconstruction based upon hindsight reasoning tied to the limitations of the claims being considered. Our reviewing court's precedent states (In re McLaughlin, 443 F.2d 1392, 170 USPQ 209, 212 (CCPA 1971)) that:

Any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper.

In addition, our reviewing court heard similar reality based arguments by appellant in the above noted Nilssen decision and dismissed them as contrary to its long established precedent

at 7 USPQ2d 1502 as follows:

Nilssen urges this court to establish a 'reality-based' definition whereby, in effect, references may not be combined to formulate obviousness rejections absent an express suggestion in one prior art reference to look to another specific reference. We reject that recommendation as contrary to our precedent which holds that for the purpose of combining references, those references need not explicitly suggest combining teachings, much less specific references. See, e.g., In re Sernaker, 702 F.2d 989,995, 217 USPQ 1, 6 (Fed. Cir. 1983); In re McLaughlin, 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971).

Taking appellant's contention that there must be a plain and clear advantage suggested by the applied references next, we find it to be a factual statement but not so limiting as appellant apparently believes. In the first instance, we note that a plain and clear suggestion does not require absolute predictability (only a reasonable expectation of success, see In re O'Farrell, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988)). Moreover, there is no requirement that this suggestion relates to the specific advantages noted by appellant in his specification as to his claimed structure. See In re Heck, 699 F.2d 1331, 1332-3, 216 USPQ 1038, 1039 (Fed. Cir. 1983); In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562-3 (CCPA 1972); In re Gershon, 372 F.2d 535, 152 USPQ 602, 605 (CCPA 1967) and In re Jacoby, 309 F.2d 513, 516, 135 USPQ 317, 319 (CCPA 1962).

Appellant's position as to both references focuses upon the details of preferred embodiments and/or the "invention" of the particular patent and suggests that the artisan would have had no reason to modify these operable detailed embodiments. The problem with this approach is that it relegates reference teachings to preferred embodiments or disclosed inventions which are contrary to the precedent of our reviewing court which

requires a reference to be considered for all reasonable suggestions. Note, for example, In re Burckel, 592 F.2d 1175, 201 USPQ 67 (CCPA 1979); In re Lamberti, 545 F.2d 747, 192 USPQ 278 (CCPA 1976); In re Simon, 461 F.2d 1387, 174 USPQ 114 (CCPA 1972) and the Heck decision (cited, supra). With regard to this last decision, it is well settled that the use of patents as references is not limited to that which the patentees describe as their invention (or their particular problems of concern). Instead, such patents are literature of the art and relevant as to all of their suggestions.

In our view, Walker suggests that his device of Figure 6 (or the even more broadly disclosed device of Figure 1) can be driven by a rectified voltage (column 2, lines 56 to 61) and operated with feedback from a sense winding to provide self-oscillating frequency control through 14. In this regard we note Figures 1 and 6 and the descriptions thereof at column 2, lines 55 to column 3, line 12 (with special attention to column 3, lines 7 to 12 and the fact that "[t]he specific connection topology of the current sensor 16 and the rate of change sensor 18 are, however, not critical to the operation of the inverter circuit and these components may be of any type and connected in any manner known to the art") as well as the remainder of column 3 with column 4 and column 5, lines 1 to 17.

Pintell teaches that his Figure 6 saturable feedback transformer has an advantage that it "allows oscillations in the system to build up from zero amplitude when battery 613 is first connected in circuit" (see column 5, lines 15 to 31). We note that Pintell is concerned with L-C resonance effects and feedback control of the self-oscillating frequency just as Walker is.

Given the suggestion of Walker and the advantageous showing of Pintell relied on by the examiner, we are convinced

that the examiner has established a prima facie case of obviousness. There is a clear and plain suggestion of the combination of the reference teachings in the references and there is at least a reasonable expectation of success evident here. Accordingly, the examiner has done far more than equate that which is within the skill of the designer with that which is obvious.

Even if we consider Walker's preferred embodiment of Figure 7 relative to appellant's claims 143 and 144, we find nothing that is part of appellant's claimed subject matter which is not met or suggested by Walker (note In re Pearson, 444 F.2d 1399, 181 USPQ 641 (CCPA 1969) and the fact that anticipation is the epitome of obviousness). Walker shows his feedback means between the squarewave output terminals and the control input and that these means include "saturable inductor means effectively connected with the control input means". Column 5, line 17 to column 6, line 24 generally describe Figure 7, while column 5, line 58 to column 6, line 8 particularly describe the Walker feedback means as including both an inductive (W4, W3) and a saturable (Q5 or Q6) part which together make up saturable inductor means connected with the control input (Q4 and Q3 control Q1, Q2)<sup>4</sup>. We note that we consider it to be axiomatic that claim limitations are not to be effectively narrowed in scope by reading limitations from the specification into their broad terms which lack express statements as to such narrowing language. See In re Queener, 796 F.2d 461, 230 USPQ 438 (Fed. Cir.

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<sup>4</sup>We take further note that Walker incorporates the Anderson et al. patent (3,781,638) by reference thereto (column 1, lines 30 to 38) and that this patent has a feedback control saturable magnetic core. Moreover, we note the description of Figure 4 (column 4, lines 41 to 49) as to such saturated cores and their characteristics. Even if we were to interpret this broad language as requiring a saturable inductor core (which we do not), Walker itself suggests using such well known cores.

1986); In re Sneed, 710 F.2d 1544, 218 USPQ 385 (Fed. Cir. 1983) and In re Heck, supra.

Allowed claims 139 and 141 do not appear to us to include any limitations which can be said to be different from the showing of Figure 7 of Walker or to define unobvious subject matter thereover. We note in particular that all of 10 is broadly, a rectifier means and that it is connected to the 120 V, 60 HZ terminals which clearly indicate an ordinary electric utility line. The series L-C circuit of L1, C is described as is a sinusoidal AC voltage across C, which is where the load is connected. Either C terminal can be said to be electrically connected to either of the 120V, 60HZ terminals through the power supply components since a traceable circuit path is an electrical connection even if it includes such electrical components (such as a diode). We note the decisions cited above as to the reading of claim limitations in a reasonable manner without specification details being read into claims lacking an express statement thereof.

Allowed claim 142 requires a center tap in the DC source but Walker shows a center tap relative to his diode bridge that is (via a diode and a wire) electrically connected to the lower 120V, 60HZ terminal and to the + output.

Allowed claims 139 to 141 further do not, in our view, include limitations which define unobvious subject matter over the Figure 2 showing of Franke. The artisan must be presumed to be familiar with the art beyond specific reference disclosures (see In re Jacoby, 309 F.2d 513, 135 USPQ 317 (CCPA 1962)). In this regard we note the Bedford text as to L-C filters being tuned to the inverter fundamental frequency to provide sinusoidal voltage across a capacitor such as the Figure 2 capacitor of Franke. We do not believe it is reasonable to presume that the oscillatory L-C elements of Franke are not related to inverter



frequency as appellant apparently does, simply because Franke does not specifically disclose this text book knowledge. As to self-oscillating inverters, we consider inverters with internal triggering of any form (such as from 21 of Franke) to meet this broad claim language.

As to allowed claim 142 and the Figure 2 showing of Franke (considered with the well known textbook knowledge of Bedford), the only difference we see is the use of transistors as inverter switches. Pintell teaches the advantageous use of inverter switching transistors, however.

In view of the above noted considerations as to allowed claims 139 to 142 and the reference teachings of Walker, Franke, Bedford and Pintell, we remand this application (pursuant to 37 CFR 1.196(d)) to the examiner for the consideration of the pertinency of a rejection of claims 139, 141 and 142 as anticipated under 35 U.S.C. 102(b) or, in the alternative, as obvious under 35 U.S.C. 103 over Walker. The examiner is to also consider the pertinency of a rejection of calims 139 to 142 under 35 U.S.C. 103 as being obvious over Franke considered with Bedford as to claims 139 to 141 with the further consideration of Pintell as to claim 142.

#### SUMMARY

We have sustained the examiner's rejection of claims 143 and 144 under 35 U.S.C. 103.

We have also remanded the application to the examiner under 37 CFR 1.196(d) to reconsider the indicated allowability of claims 139 to 142.

Effective August 20, 1989, 37 CFR 1.196 was amended to include section 1,196(e) which indicates that any decision including a remand (as here) cannot be considered a final one.


Any request for reconsideration or modification of this decision by the Board of Patent Appeals and Interferences based upon the same record must be filed within one month from the date hereof (37 CFR 1.197).


A period of two months is set in which the appellant may submit to the Primary Examiner an appropriate amendment, or a showing of facts or reasons, or both, in order to avoid the grounds set forth in the Statement of the Board of Patent Appeals and Interferences under the provisions of 37 CFR 1.196(d).

Upon conclusion of the proceedings before the Primary Examiner on remand, this case should be returned to the Board by the Primary Examiner so that the Board may either adopt its decision as final or render a new decision on all of the claims on appeal, as it may deem appropriate. Such return is unnecessary if the application is abandoned, allowed or again appealed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR 1.136(a). See the final rule notice, 54 F.R. 29548 (July 13, 1989), 1105 O.G. 5 (August 1, 1989).

AFFIRMED - 37 CFR 1.196(d)

  
Stanley M. Urynowicz, Jr.  
Examiner-in-Chief

  
Errol A. Krass  
Examiner-in-Chief

  
Raymond F. Cardillo, Jr.  
Examiner-in-Chief

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